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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,349	01/05/2001	Donald E. Woodmansee	9038-120000	3971

7590

12/03/2003

Chris A. Caseiro
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Portland, ME 04101

EXAMINER

PERRIN, JOSEPH L

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 12/03/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,349

Applicant(s)

WOODMANSEE ET AL.

Examiner

Joseph L. Perrin, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 July 2003 has been entered.

Response to Arguments

2. Applicant's arguments, see Amendment, filed 10 July 2003, with respect to the rejections of claims 11-12 & 14-18 under 35 USC §102, and claims 13 and 19 under 35 USC § 103 have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly cited US 5,011,540 to McDermott.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 11-12 & 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,423,152 to Landaas in view of US 5,011,540 to McDermott.

Landaas teaches a cleaning apparatus for hollow cleaning site structure A having a gas inlet (gas source) 16, a mixing chamber 18 connected to the structure by a coupling, a control arrangement (valve) 17 coupling the gas source to the mixing chamber, an expansion separator 33 for separating the gas and liquid/particulate mixture, a filter 7 coupled to the separator, a measuring unit (rotameter) 5, coupled to the filter, and gas and liquid return ducts to recycle the gas and liquid to create a closed-loop system (see entire reference of Landaas, for instance, Figure 3 and col. 3, lines 10-65). Landaas also teaches that it is known to utilize water and air as the cleaning liquid and gas, respectively, in such an apparatus (see, for instance, col. 1, line 65 to col 2, line 3). Although Landaas does disclose it is advantageous to apply the cleaning liquid as an aerosol fog (see, for instance, col. 4, lines 5-6), Landaas does not expressly disclose a liquid misting means (e.g. spray head or nozzle) at the gas/liquid mixing interface, in the instant case the mixing chamber.

Re claims 11 & 19, McDermott teaches that it is known to provide a liquid nozzle (spray head) at the gas/liquid interface to achieve a "cloud of cleaning fluid" which more uniformly cleans a compressor of gas turbine engines relative to typical spray cleaning (see entire reference of McDermott, for instance, col. 1, line 66 – col. 2, line 54).

Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the cleaning system and mixing chamber of Landaas, with the liquid misting means

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(nozzle/spray head) disclosed by McDermott, for the purpose of creating a cleaning liquid mist or "cloud" to achieve improved and more uniform cleaning of a gas turbine system.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Landaas and McDermott, as applied above, and further in view of US 5,954,911 to Bergman *et al.* (hereinafter "Bergman").

Recitation of Landaas and McDermott are repeated here from above.

However, Landaas and McDermott do not expressly teach a gas filter and heater. Bergman teaches that it is known to utilize a gas filter 297 and gas heater 299 prior to mixing a gas and liquid in a gas/liquid cleaning system (see, for instance, Figure 4 and col. 9, lines 58-67).

Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the cleaning system, disclosed by Landass and McDermott, with the gas filter and heater, disclosed by Bergman for the purpose of preventing contaminants from entering the cleaning system and maintaining purging of the vapor/mist and drying of the structure to be cleaned.

6. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landaas and McDermott, as applied above, and further in view of US 4,752,399 to Viator *et al.* (hereinafter "Viator").

Recitation of Landaas and McDermott are repeated here from above.

Although Landaas does disclose means for separating gas and liquid (*i.e.* an expansion separator), Landaas does not expressly disclose using a heat exchanger to separate gas and liquid. Viator teaches that it is known to use a heat exchanger to cool and separate gas/liquid mixtures (see, for instance, col. 3, lines 30-33).

Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the gas/liquid separating means disclosed by Landaas with the cooling gas/liquid separating means (heat exchanger) disclosed by Viator for the purpose of separating a gas/liquid mixture through cooling by condensing gaseous phase liquids.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6,503,334 to Ruiz *et al.*, which discloses a turbine cleaning apparatus utilizing forced mist.

US 4,196,020 to Hornak *et al.*, which discloses a gas turbine cleaning apparatus utilizing wash spray.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Perrin, Ph.D. whose telephone number is

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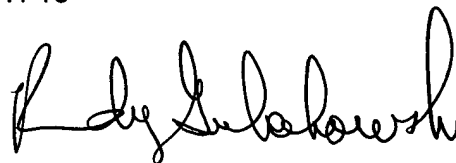
(703)305-0626. The examiner can normally be reached on M-F 7:30-5:00, except alternate Fridays.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (703)308-4333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

10. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Joseph L. Perrin, Ph.D.
Examiner
Art Unit 1746

jlp



RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700